

**REMARKS**

Initially, the undersigned wishes to acknowledge the Examiner's courtesy in providing the telephonic interview of January 11, 2006. The Examiner's withdrawal of the rejections set forth in the final Office Action mailed July 19, 2005, is acknowledged with appreciation.

By this Amendment, Applicant amends claims 1, 5-12, 14, 15, 17-20, 22-42, 44, 45, and 47-51. Claims 1-51 remain pending in this application. In the Office Action of January 20, 2006,<sup>1</sup> claims 1, 9, 18, 22, 30, 38, 47, and 48 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter, and claims 1, 5, 18,<sup>2</sup> 38, and 48 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner also objected to claims 5-7 for lack of clarity. Applicant addresses the objection and rejections below.

**Objection to claims 5-7**

The Examiner objected to claims 5-7, alleging that various language in the claims is unclear. Without acquiescing to the Examiner's allegations, Applicant amends claims 5-7 to improve form, readability, and clarity. Applicant deems the objection to claims 5-7 overcome and requests its timely withdrawal.

**Section 101 rejection of claims 1, 9, 18, 22, 30, 38, 47, and 48**

The Examiner rejected claims 1, 9, 18, 22, 30, 38, 47, and 48 under § 101 as being directed to non-statutory subject matter. Applicant traverses the § 101 rejection for at least the following reasons.

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether or not any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

<sup>2</sup> The statement of rejection at page 3, item 9, of the Office Action does not mention claim 18. Because the Examiner addresses claim 18 in the § 112 rejection, however, Applicant assumes that claim 18 is rejected under § 112, second paragraph, as responds accordingly.

With regard to claims 1, 9, 18, 22, 30, and 38, the Examiner alleged that Applicant's claims do not recite a "tangible result." Office Action at p. 4. The Examiner further alleged that claim 1 is "of unclear intended use." *Id.* The Examiner has not established a *prima facie* case of unpatentability, as discussed below.

The PTO's *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility* ("Interim Guidelines") states on pages 17-18:

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be (emphasis added). In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself (emphasis added).

In this case, the Examiner appears to be of the position that Applicant's claims are directed to "abstract ideas." Even if Applicant's claims could be said to include abstract elements, Applicant disputing that notion, the Examiner has not established that each of the claims as a whole fails to provide a particular application of those elements. Indeed, as further discussed below, Applicant's claims and specification provide particular, real-world applications of the claimed invention.

According to the Federal Circuit, the inquiry of whether a claim is statutory focuses on "the essential characteristics of the subject matter, in particular, its practical utility." *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375, 47 USPQ2d (BNA) 1596, 1602 (Fed. Cir. 1998). If a claim includes recitations that produce "a concrete, tangible and useful result," the claim is not abstract and has practical utility. *See id.* at 1373, 1600-01; *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999), 50 USPQ2d 1447,

1451-52. And if the claim is not abstract and has practical utility, it is statutory under 35 U.S.C. § 101.

In this case, Applicant's claims provide a particular, real-world application that produces "a concrete, tangible and useful result." First, Applicant's claimed invention is "useful." The specification explains that the claimed invention is useful for simulating industrial processes, such as microbiological processes, which allows the industrial processes to be efficiently performed.<sup>3</sup> See Specification, e.g., pp. 1, 4-8. In addition, each of independent claims 1, 9, and 18 recites, *inter alia*, a "method of simulating an industrial process." Claims 22 and 30 recite, *inter alia*, an apparatus for "generating a simulation of an industrial process." Similarly, claim 38 recites, *inter alia*, an apparatus for "simulating an industrial process." Accordingly, Applicant's claim language and specification provide at least one specific use for the claimed invention. Indeed, Applicant's claims produce results, such as "output data" indicative of a simulation of an industrial process or a step within a simulation of an industrial process, which are "useful" in, for example, improving industrial process efficiency.

Moreover, contrary to the Examiner's position, Applicant's claims provide a practical application that is "tangible." Applicant reminds the Examiner that:

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. (Interim Guidelines, pp. 21-22 (internal citations omitted).)

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<sup>3</sup> In referring to the specification above, Applicant does not intend to limit the scope of the claims to the exemplary embodiments shown in the drawings and described in the specification. Rather, Applicant expressly affirms the entitlement to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

Here, Applicant's claims set forth the practical application of simulating industrial processes, which allows improvement of process efficiency.

The Examiner alleged that, while claim 1 recites "generating output data indicative of a simulation of an industrial process," the claim lacks a tangible result. Applicant disagrees with that assertion. The feature of "generating output data indicative of a simulation of an industrial process," is a final result achieved by Applicant's claimed invention. That final result is a tangible, real-world result that allows improvement of process efficiency, which is also a tangible, real-world result. For at least these reasons, claim 1 provides a practical application that produces a tangible result.

Claims 18, 22, and 38, although different in scope than claim 1 and each other, recite subject matter similar to the "generating" feature of claim 1 noted above. For at least the reasons presented above in connection with claim 1, claims 18, 22, and 38 provide practical applications producing tangible results.

In rejecting claims 9 and 30, the Examiner alleged that the "[f]inal step of 'selecting a time increment' has no tangible result. Applicant again calls attention to the PTO's Interim Guidelines, which state:

[W]hen evaluating the scope of a claim, every limitation in the claim must be considered. USPTO personnel may not dissect a claimed invention into discrete elements and then evaluate the elements in isolation. Instead, the claim as a whole must be considered. (Pages 9-10, internal citations omitted).

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." (Page 20.)

Claims 9 and 30 (although of different scope) both recite, *inter alia*, “generating output data indicative of a step within a simulation of an industrial process.” This result is a tangible, real-world result that allows improvement of process efficiency, which is also a tangible, real-world result. Whether or not “selecting a time increment” is deemed a tangible result does not determine whether the claims, each taken as a whole, are statutory. Indeed, each of claims 9 and 30, taken as a whole, provides a practical application that produces a tangible result.

Aside from bare allegations that Applicant’s claims provide “no tangible result” or include certain subject matter lacking a tangible result, the Examiner fails to provide any evidence or explanation establishing a *prima facie* case of unpatentability. According to the PTO’s Interim Guidelines:

The examiner must . . . reach a conclusion as to whether it is more likely than not that the claimed invention as a whole either falls outside of one of the enumerated statutory classes or within one of the exceptions to statutory subject matter. “The examiner bears the initial burden . . . of presenting a *prima facie* case of unpatentability.” (Page 24, internal citations omitted.)

In this case, the Examiner provides no evidence or explanation showing why it is more likely than not that Applicant’s claims are unpatentable. The conclusory allegations set forth in the Office Action do not suffice to establish *prima facie* unpatentability. For at least this additional reason, the § 101 rejection should be withdrawn.

Additionally, Applicant’s claims define subject matter that provides a practical application that produces a “concrete” result. For example, the claims produce results, such as data indicative of an industrial process simulation or a step within a simulation, which facilitate, for example, improvement of process efficiency.

Independent claims 1, 9, 18, 22, 30, and 38 are drawn to subject matter that provides useful, concrete, and tangible results. These claims are therefore not abstract but, rather,

statutory under 35 U.S.C. § 101. Accordingly, Applicant requests withdrawal of the § 101 rejection of claims 1, 9, 18, 22, 30, and 38.

As to claims 47 and 48, the Examiner alleged that these claims are “unclear since a recording medium could be pencil and paper.” Office Action at p. 3. Claim 47 depends in the alternative upon claims 1, 9, and 18; and claim 48 depends in the alternative upon claims 22, 30 and 38. Claims 47 and 48 are non-abstract and statutory for at least reasons similar to those presented above in connection with claims 1, 9, 18, 22, 30, and 38. Applicant therefore requests withdrawal of the § 101 rejection of claim 47 and 48.

Furthermore, the Examiner provides no legal authority whatsoever supporting the Examiner’s “pencil and paper” rejection of claims 47 and 48. In fact, the Board of Patent Appeals and Interferences recently confirmed that there is no judicially-recognized, separate “technological arts” test to determine eligible subject matter under § 101. *Ex Parte Lundgren* (Bd. Pat. App. & Int., No. 2003-2088, Oct. 2005). Nonetheless, to expedite prosecution, Applicant amends claims 47 and 48 to recite, *inter alia*, “computer-readable” recording media to further clarify the claimed subject matter. For at least these additional reasons, the § 101 rejection of claims 47 and 48 should be withdrawn.

**Section 112 rejection of claims 1, 5, 18, 38, and 48**

The Examiner rejected claims 1, 5, 18, 38, and 48 under § 112, second paragraph. This rejection should be withdrawn for at least the following reasons.

Initially, Applicant notes that the § 112 rejection is ambiguous. To begin with, claim 18 is not mentioned in the rejection statement (Item 9, page 3) but is addressed in the substance of the rejection (Item 10). Furthermore, while claim 5 is mentioned in the rejection statement (Item 9, page 3), the Examiner fails to address this claim in the rejection. To be fully responsive,

Applicant addresses the compliance of claims 5 and 18 with § 112 below. Nevertheless, should the Examiner continue to dispute the patentability of these claims, Applicant requests clarification in the next Office Action, which should not be final.

As to claim 1, the Examiner alleged that the phrase “of said minimum process times” is “not mentioned previously” in the claim. Office Action at p. 3. Claim 1 recites, *inter alia*, “[determining] for each item of said identified items . . . a minimum possible simulated processing time required for simulated processing . . .” (emphasis added). Applicant submits that at least this language provides sufficient antecedent basis for “minimum process times.” Nonetheless, to expedite prosecution, Applicant amends claim 1 to clarify this feature and address the Examiner’s rejection.

Regarding claim 5, Applicant has amended this claim to improve form, readability, and clarity. Applicant submits that claim 5 is fully compliant with the provisions of § 112, second paragraph.

Regarding claim 18, the Examiner alleged that various portions of the claim require clarification. Office Action at pp. 3-4. While Applicant disagrees with the Examiner’s rejection, Applicant amends claim 18 to improve form, readability, and clarity, and to address the items noted in the Office Action.

Regarding claim 38, the Examiner alleged that there is insufficient antecedent basis for the phrase “said step.” *Id.* at p. 4. Without acquiescing to the Examiner’s allegation, Applicant amends claim 38 to, *inter alia*, address the § 112 rejection.

Regarding claim 48, the Examiner alleged that “it is unclear how a process running on a computer generates an apparatus.” *Id.* Applicant disagrees with the Examiner. For example, a process running on computer could cause the computer to implement or perform functionality of

the apparatus, thereby generating the apparatus. To expedite prosecution, however, Applicant amends claim 48 to clarify the subject matter recited therein.

Applicant submits that claims 1, 5, 18, 38, and 48 are fully compliant with the provisions of § 112, second paragraph. Applicant thus requests withdrawal of the § 112, second paragraph, rejection of these claims.

**Regarding claims 2-4, 8, 10-17, 19-21, 23-29, 31-37, 39-46, and 49-51**

While indicating that claims 1-51 are rejected (see PTOL-326), the Office Action does not specifically address claims 2-4, 8, 10-17, 19-21, 23-29, 31-37, 39-46, and 49-51. Because each of these claims depended prior to this Amendment upon one or more of claims 1, 5-7, 9, 18, 22, 30, 38, and 47 (which were addressed in the Office Action), Applicant assumes that each of dependent claims 2-4, 8, 10-17, 19-21, 23-29, 31-37, 39-46, and 49-51 was rejected and/or objected to on the grounds presented for its respective base claim.

For the reasons presented above, Applicant submits that claims 1, 5-7, 9, 18, 22, 30, 38, 47, and 48 are in condition for allowance. Applicant submits that claims 2-4, 8, 10-17, 19-21, 23-29, 31-37, 39-46, and 49-51 are likewise in condition for allowance, as these claims currently depend upon one or more of claims 1, 5-7, 9, 18, 22, 30, 38, 47, and 48. Should the Examiner continue to dispute the patentability of the pending claims, however, Applicant requests clarification in the next Office Action as to the basis of rejection for claims 2-4, 8, 10-17, 19-21, 23-29, 31-37, 39-46, and 49-51.



**Conclusion**

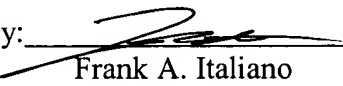
Applicant requests the Examiner's reconsideration of the application in view of the foregoing, withdrawal of the outstanding rejections and objection, and the timely allowance of pending claims 1-51.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: April 19, 2006

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